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What is claimed is:

1. A lithium secondary battery comprising:

mainly of Li and Mn and has a cubic spinel structure, the primary particles of the positive electrode active material having a substantially octahedral shape constituted mainly by flat crystal faces.

- 2. A lithium secondary battery according to Claim 1, wherein the primary particles contain those primary particles in which at least one side of each flat crystal face has a length of 0.2 µm or more.
- 3. A lithium secondary battery according to Claim 2, wherein the at least one side of each flat crystal face has a length of 1 µm or more.
- 4. A lithium secondary battery according to Claim 1, wherein the primary particles have an average particle diameter of 0.1 to 20 μm .
- 5. A lithium secondary battery according to Claim 4, wherein the average particle diameter is 1 to 20 µm.
- 6. A lithium secondary battery according to Claim 1, wherein the positive electrode active material has a Li/Mn ratio of larger than 0.5.
- 7. A lithium secondary battery according to Claim 1, wherein the primary particles form secondary particles having the maximum particle diameter of 50 μm or less.
 - 8. A lithium secondary battery according to Claim 1, which has a capacity of 2 Ah or more.
- 9. A lithium secondary battery according to Claim 1, which is used
 25 in an electric vehicle or a hybrid electric vehicle.

Add A)